

REMARKS

Claims 11-17 and 19 remain in the application after amendment herein. In the outstanding Office Action all of the claims were again rejected under Section 102 or under Section 103.

Claim 11, and claims 12 and 14-17 which depend from claim 11, were rejected under Section 102 based on German Patent 3926556, and were also rejected under Section 103 over German Patent 3926556 in view of Reichert 2002/0009361. Claims 13 and 18 (canceled), which depend from claim 12, were rejected under Section 103 over German Patent 3926556 in view of Tardy (U.S. 4,470,339), and were also rejected under Section 103 over German Patent 3926556 in view of Reichert as applied to claim 12 and further in view of Tardy.

Independent claim 19 was rejected under Section 102 as anticipated by Kashima (U.S. 4,995,730), and was also rejected under Section 103 over Arvidsson (U.S. 4,915,510) in view of German Patent 3926556 and based on Official Notice that the use of 4/2-way directional control valves is well known in the art of hydraulic systems. Independent claim 19 was also rejected under Section 103 over Arvidsson in view of German Patent 3926556.

Reconsideration of the claims is again requested in view of the above amendments as well as the previously presented amendments and the following remarks. Applicants submit that all of the claims are allowable based on allowability of the independent claims 11 and 19. Argument in support of patentability now follows.

Reconsideration of the rejection of claim 11 (amended), based on German Patent 3926556 under Section 102 or in combination with Reichert under Section 103, is requested because the grounds presented do not provide disclosure of several now-claimed features.

The rejection notes that German Patent 3926556 discloses, at the ninth paragraph of the partial English translation, "a source of oil pressure." However, neither the German Patent 3926556 nor Reichert discloses

"the first piston element configured to effect movement of the rotor by transfer of the first force ... [and] the second piston element configured to effect movement of the rotor by transfer of the second force ..."

Reichert does not disclose use of a piston by transfer of the hydraulic force to effect movement of a rotor. See paragraphs [0044] and [0045] of Reichert which indicate that the

bearing element 5 can be axially displaced and presence of an oil space 17 into which hydraulic oil can be fed under high pressure. The "bearing surface 15 ... is adjacent the rotor surface 7 and is separated from the latter by a film of hydraulic fluid ..." Reichert discloses use of hydraulic pressure and fluid to supply a film of hydraulic fluid to separate the surfaces. See paragraph [0044]. However, as described in paragraph [0045] the disclosure is directed to a hydraulic supply system which makes it possible to "keep the volume of hydraulic fluid acting on the bearing elements 4 and 5 constant" and this achieves the effect of providing a "counterforce ... in the shaft bearing 1 even when there are changes to the axial thrust of the rotor 2 [so that] ... the rotor 2 therefore remains in the desired axial position." None of the foregoing can be construed as using a piston to effect movement of the rotor by transfer of a hydraulic force with

"operation of the first or second of the forces through the first or second piston element alternately causing displacement of the rotor along the first and second direction from a first operating position into a second operating position ..."

Acknowledging the Examiner's remarks concerning claim 14 (see page 5 of the Office Action) that without structural distinction a recitation has been construed as intended use, claim 11 is further amended to recite that

"... piston chambers in the first element are hydraulically connected to ... piston chambers in the second element through a control valve selectively connecting the first flow path to the second flow path ..."

This recitation provides the further non-obvious distinction of

"a control valve selectively connecting the first flow path to the second flow path so that when the first piston element effects movement of the rotor, hydraulic fluid is displaced from one or more chambers of the second element toward the hydraulic system ..."

In addition to the above, the assembly of claim 11 differs from the prior art by requiring, for both the first and second piston elements:

each piston operatively positioned in a different piston chamber to effect one of the first or second forces, operation of the first or second of the forces through the

first or second piston element causing displacement of the rotor along the first or second direction from a first operating position into a second operating position

A further structural distinction in the assembly of claim 11 is having

"at least one restrictor ... positioned between the first piston element and the hydraulic system and at least one second restrictor ... positioned between the second piston element and the hydraulic system."

With regard to the above recitation requiring at least two restrictors, applicants acknowledge the statements made at page 13 of the Office Action concerning the Tardy reference and urge that the present recitation structurally distinguishes in a non-obvious manner. For example, none of the prior art is seen to provide a basis for applicants' combination wherein two restrictors are provided in combination with "connecting the first flow path to the second flow path so that when the first piston element effects movement of the rotor, hydraulic fluid is displaced from one or more chambers of the second element toward the hydraulic system ..."

For all of these reasons it is submitted that claim 11 now defines patentable subject matter and allowance is requested. Claim 12 which depends from claim 11 is amended to further define allowable subject matter. None of the prior art provides, in addition to the restrictors of claim 11, "a first flow control valve positioned between the first piston element and the hydraulic system and a second flow control valve positioned between the second piston element and the hydraulic system ..." Applicants' restrictors and flow control valves are configured so that the restrictors only limit displacement speed of the rotor in the event of a fault whereas the flow control valves limit admissible displacement speed of the rotor during intended displacement. Other claims depending from claim 11 also further distinguish over the prior art.

Claim 19 has been amended to assure distinction over the prior art. The claim now requires that the two hydraulic piston arrangements are fluidically connected to one another through a 4/2-way directional control valve. This permits selective operation of the first and second piston arrangements to displace the rotor with hydraulic forces generated by the hydraulic system, or to fluidically connect the piston arrangements to limit displacement speed of the rotor. The combination as now claimed is different than anything taught or suggested by the references. While the Arvidsson reference discloses bearings which move like pistons (col. 4, lines 61-68) the text explains that these are controlled by a servo valve in contact with the axle so that

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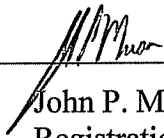
pressure in the cylinders is adjusted in response to changes in the position of the axle.
Allowance of claim 19 is requested.

Conclusion

Both of the independent claims have been shown to be patentably distinct. Further, each of the dependent claims recites a combination which further distinguishes the invention. Allowance of the application is requested. The Commissioner is hereby authorized to charge any appropriate fees due in connection with this paper, or credit any overpayments to Deposit Account No. 19-2179.

Respectfully submitted,

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